CLAIMS:

1. A method of coding an input signal, the method comprising:
- estimating a location of at least one transient in a time segment of the input signal;
the method being characterized by
- modifying the location of the transient so that the transient occurs at a specified location on a predetermined time scale to obtain a modified signal; and
modeling the modified signal.

2. A method of coding as claimed in claim 1, in which each transient is relocated to a nearest specified location of a plurality of possible locations on the predetermined timescale.

3. A method of coding as claimed in claim 1, in which the specified locations on the predetermined time scale are defined by integer multiples of a predetermined minimum time segment size.

4. A method of coding as claimed in claim 3, in which the predetermined minimum time segment size has a length in the range of approximately 1 millisecond (ms) to approximately 9 ms.

5. A method of coding as claimed in claim 1, in which the modeling uses sinusoids to represent the modified input signal.

6. A method of coding as claimed in claim 1, in which a restricted time segmentation is also applied to tonal and/or noise components of the input signal.

7. A method of coding as claimed in claim 1, in which the estimation of the location of transients is carried out using an energy-based approach.

8. A method of coding as claimed in claim 7, in which the estimation of the location of transients is carried out using two sliding windows.

9. A method of coding as claimed in claim 1, in which the location of transients involves the location of a beginning and an end of each transient.

10. A method of coding as claimed in claim 1, in which each located transient is moved by a cut and paste method from its original location to begin at a location on the predetermined time scale.

11. A method of coding as claimed in claim 10, in which a remaining section of the input signal between two located modified transients is time-warped to fill the gap remaining following the relocation.

12. A method of coding as claimed in claim 11, in which the time-warp is a lengthening or a shortening of said remaining section.

13. A method of coding as claimed in claim 11, in which the time-warping preserves the amplitudes of edge points of the modified signal.

14. A method of coding as claimed in claim 11, in which the time-warp is carried out by interpolation where the change in the fundamental frequency of the remaining section is less than approximately 0.3 %.

15. A method of coding as claimed in claim 11, in which, where the change in the fundamental frequency of the remaining section is more than or equal to 0.3%, the remaining section is split into a first length immediately after the modified transient and a second length.

16. A method of coding as claimed in claim 15, in which the first length is approximately 8 ms to 12 ms.

17. A method of coding as claimed in claim 14, in which where the interpolation is insufficient to fill a gap in the remaining section, and overlap-add procedure is used.

18. A method of coding as claimed in claim 1, in which the modification of the location of the or each transient is performed using a transformation into a frequency domain.

19. A method of coding as claimed in claim 1, wherein the method comprises including side information in the modeled modified signal, which side information describes an original time difference between corresponding transients in at least two channels.

20. A method of decoding comprising receiving a modeled modified signal in which a location of transients in at least two channels has been modified, the modeled modified signal further comprising side information describing an original time difference between corresponding transients, the method comprising:

synthesizing a synthesized signal for the at least two channels, and

unwarping the synthesized signal according to the original time difference.

21. Modeled modified signal in which a location of transients in at least two channels has been modified, the signal further comprising side information describing an original time difference between corresponding transients in the at least two channels.

22. Storage medium on which a modeled modified signal as claimed in claim 21 has been stored.

23. Decoder comprising:

means for receiving a modeled modified signal in which a location of transients in at least two channels has been modified, the signal further comprising side information describing an original time difference between corresponding transients in the at least two channels, and

means for synthesizing a synthesized signal for the at least two channels, and unwarping the synthesizing signal according to the original time difference.

24. Audio player comprising a decoder as claimed in claim 23 and a reproduction unit for reproducing the unwarped synthesized signal.

25. Apparatus (10) for coding signals comprises an electronic processor operable to:

- estimate the location of one or more transients in a time segment of an audio or video signal;

characterized by the processor being operable to modify the location of the or each transient so that the or each transient occurs at a specified location on a predetermined time scale, and the processor is operable to model the modified input signal.

26. Apparatus (10) as claimed in claim 19, which is an audio device.